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## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
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PCT

(10) International Publication Number  
WO 01/35192 A3(51) International Patent Classification?: G06F 17/30, (72) Inventor: GRASSTET, Christopher, T.; 99 Randall Street, San Francisco, CA 94131 (US).  
G01C 21/00, G06T 11/60

(21) International Application Number: PCT/US00/42055 (74) Agent: MAGEN, Burt; Fliesler, Dubb, Meyer &amp; Lovejoy LLP, Suite 400, Four Embarcadero Center, San Francisco, CA 94111-4156 (US).

(22) International Filing Date:  
9 November 2000 (09.11.2000)

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MX, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(25) Filing Language: English  
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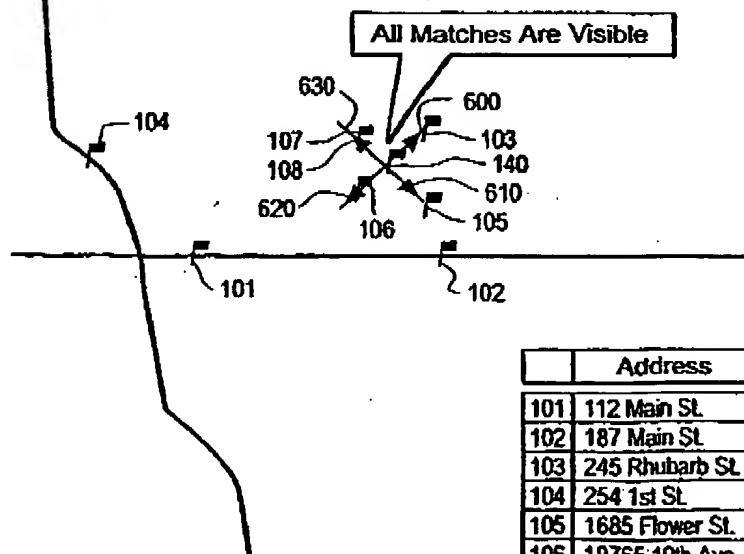
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,

(30) Priority Data:  
09/439,550 12 November 1999 (12.11.1999) US

(71) Applicant: ETAK, INC. (US/US); 1605 Adams Drive, Menlo Park, CA 94025 (US).

[Continued on next page]

(54) Title: VIRTUAL STREET ADDRESSING RADIUS

New Style Geocoding  
Using 1 Layer of Data  
1 Line Source

(57) Abstract: A single geocoded data layer is created by converting centroid related data to a line (600, 610, 620, 630) by adding or subtracting a distance at a predetermined direction from the centroid (140) to derive an endpoint from the centroid (140) defining the line (taking the form of a radial (610) extending from the centroid (140)). The source of the centroid (140) related data is utilized to determine the direction of the line (a first source creates a line in a first direction, a second source creates a line in a second direction, and same sources related to different centroids (140) create lines oriented in a same direction from the different centroids (140)). The single geocoded data layer allows for 1 pass searching of decoded data, and provides a display with more information than a simple match to a point or centroid (140). The radial display may take any form. Unconfirmed locations in the database may be related only to a centroid (140).

WO 01/35192 A3

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/42055

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : GO6P 17/30; GO6C 21/00; GO6T 11/60  
US CL : 707/1, 3; 701/ 200, 201, 207, 208, 211; 345/435.

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 707/1, 3; 701/ 200, 201, 207, 208, 211; 345/435.

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	Please See Continuation of Second Sheet.	

 Further documents are listed in the continuation of Box C.  See patent family annex.

Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier document published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reasons (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"A" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

22 APRIL 2001

Date of mailing of the international search report

04 MAY 2001

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Authorized officer

ELLA COLBERT

*Peggy Harrod*

Telephone No. (703) 308-7064

## INTERNATIONAL SEARCH REPORT

International application No. PCT/US00/42055
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**B. FIELDS SEARCHED**

Electronic data bases consulted (Name of data base and where practicable terms used):

WEST (All Databases).

Search terms: geocoded database, single layer or one layer database, map, centroid, data match, satellite.

The United States Patent and Trademark Office date stamp  
sets forth the date of receipt of:

SC/Serial No.: 09/439,550  
Inventor: Christopher T. Grasteit  
Filed: November 12, 1999  
Art Unit: 2177  
Title: VIRTUAL STREET ADDRESSING RADIUS

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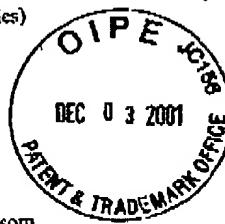
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Enclosed:

1. Information Disclosure Statement Under 37 C.F.R. § 1.56 (2 copies)  
with cited references and Appendices A and B
2. Return Receipt Postcard

Mailing Date: November 20, 2001  
Attorney Docket No.: ETAK-07735US0

Atty: Brent A. Folsom



Title: VIRTUAL STREET ADDRESSING RADIUS

Inventor: Grastek

Appl No.: 09/439,550

Attorney: Brent A. Folsom

Filing Date: November 12, 1999

Docket No.: ETAK-0773-0

Telephone No.: 415-362-3800

Old Style Geocoding  
Using 2 Layers of Data  
1 Line Source/1 Point Source

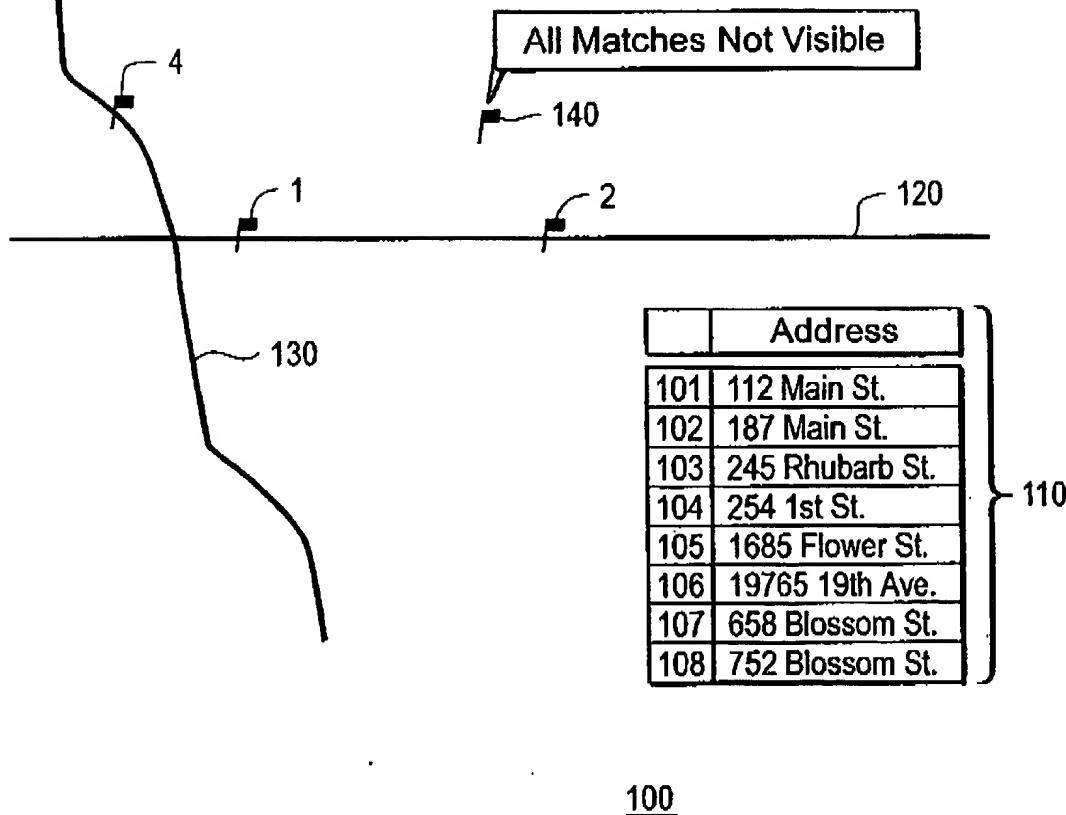


FIG. 1

12/10/02 TUE 17:28 FAX 415 362 2928

FDM&L

037

Title: VIRTUAL STREET ADDRESSING RADIUS

Entered: Grascht  
Case No.: 09/439,550  
Attorney: Brent A. Folsom  
Filing Date: November 12, 1999

Docket No.: ET. 735US0  
Telephone No.: 415-362-3800

The Address Was Not Found.

The Following Was Found: SAN FRANCISCO, CA 94111

852 Nother St.	
San Fran	CA
94111	USA

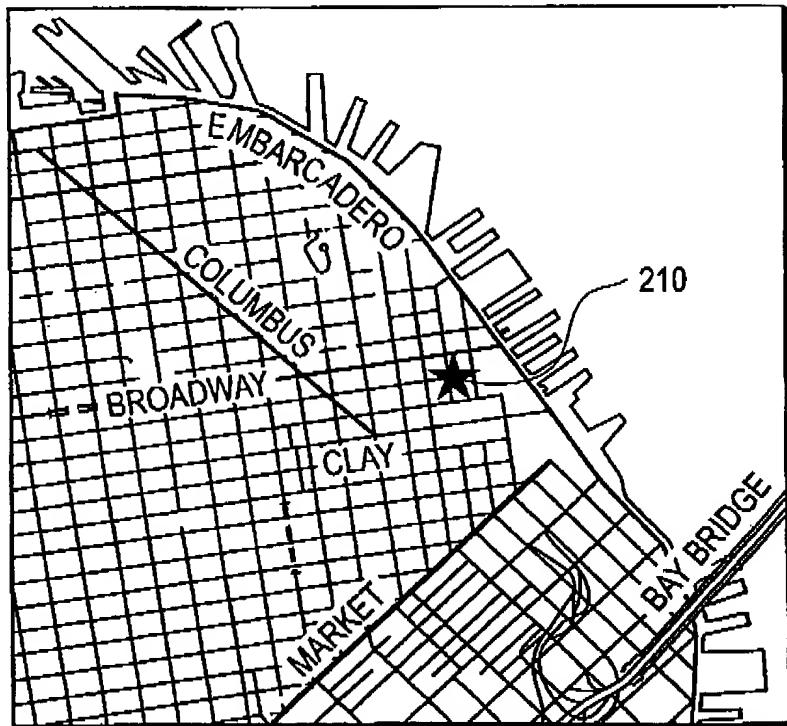


FIG. 2A

## Title: VIRTUAL STREET ADDRESSING RADIUS

Attorney: Grastein  
Case No.: 09/439,550  
Attorney: Brent A. Folsom  
Filing Date: November 12, 1999

Docket No.: ET/ 735US0  
Telephone No.: 415-362-3800

The Address Was Not Found.  
The Following Was Found: SAN FRANCISCO, CA 94111

852 Same Place Ave.	
San Fran	CA
94111	USA

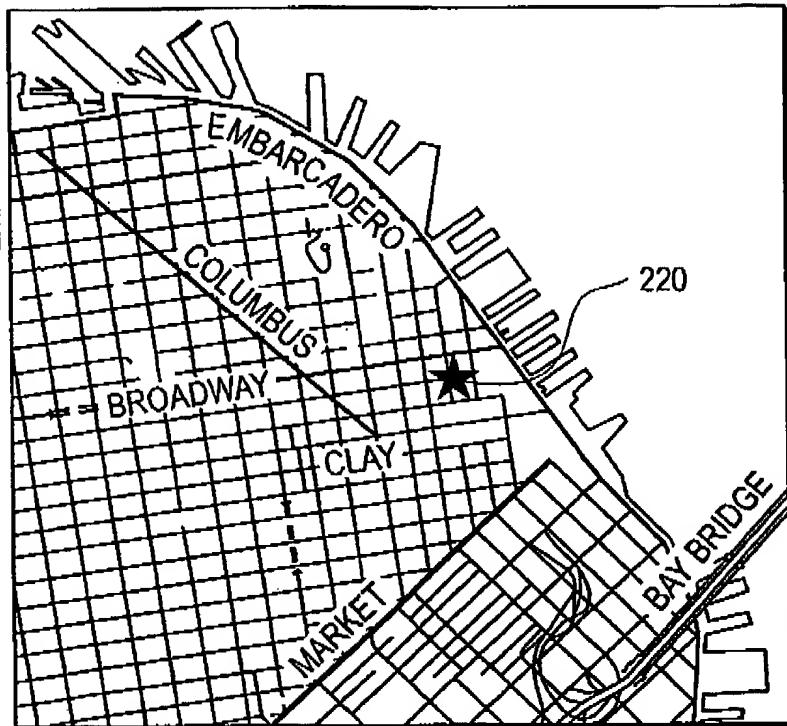


FIG. 2B

12/10/02 TUE 17:28 FAX 415 362 2928

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039

Title: VIRTUAL STREET ADDRESSING RADIUS

Inventor: Grastek

Appl. No.: 09/439,550

At. Atty: Brent A. Folsom

Filing Date: November 12, 1999

Docket No.: ETAK- 1100

Telephone No.: 415- 5800

260

120 CLAY ST., SAN FRANCISCO, CA 94111

120 Clay St.  
San Fran      CA  
94111      USA

250

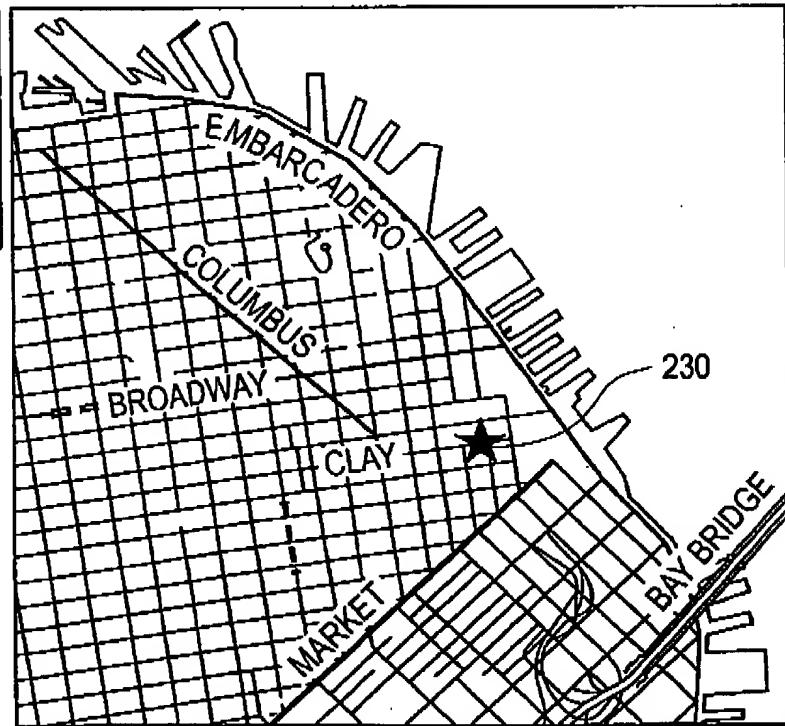


FIG. 2C

12/10/02 TUE 17:29 FAX 415 362 2928

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040

Title: VIRTUAL STREET ADDRESSING RADIUS

Author: Grasteit  
Id No.: 09/439,550  
Attorney: Brent A. Folsom  
Filing Date: November 12, 1999

Docket No.: ET. 1735US0  
Telephone No.: 415-362-3800

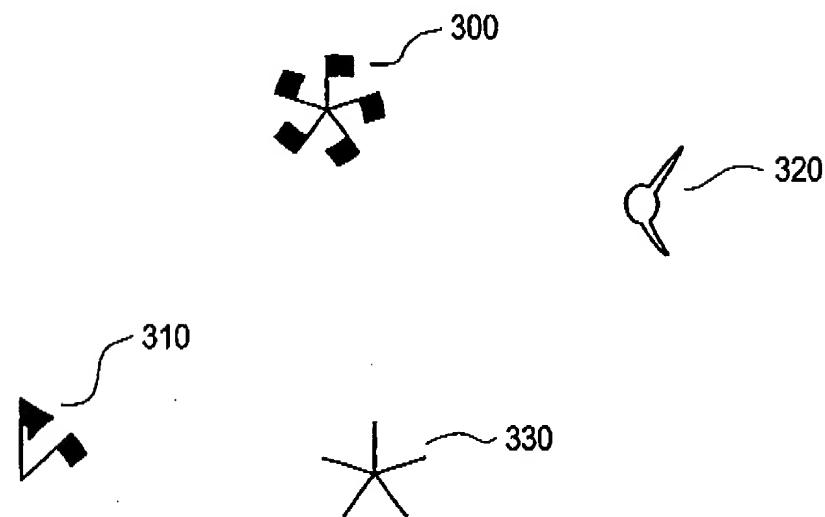


FIG. 3

## Title: VIRTUAL STREET ADDRESSING RADIUS

Inventor: Grastell

Appl No.: 09/439,550

Attorney: Brent A. Folsom

Filing Date: November 12, 1999

Drawing Sheet 6 of 12

Docket No.: E111-07735US0

Telephone No.: 415-362-3800

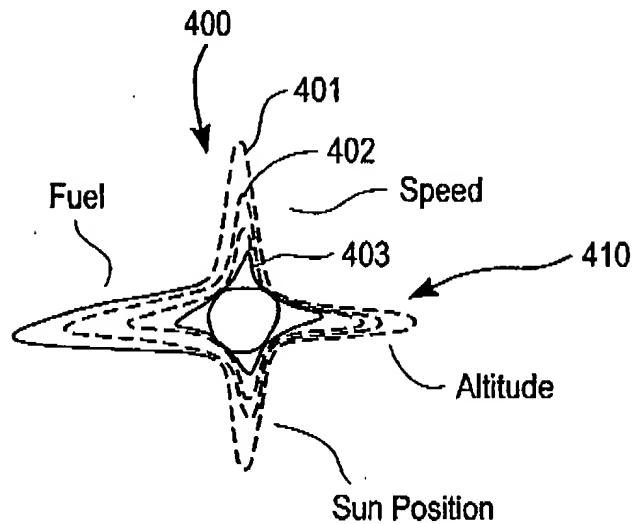


FIG. 4

• Title: VIRTUAL STREET ADDRESSING RADIUS  
 Inventor: Grasic  
 Appl No.: 09/439,550  
 Attorney: Brent A. Folsom  
 Filing Date: November 12, 1999

Docket No.: AK-07735US0  
 Telephone No.: 415-362-3800

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No Parking <input type="checkbox"/> — Street Parking <input type="checkbox"/> — Free Parking <input type="checkbox"/> — \$ Parking	<input type="checkbox"/> — None <input type="checkbox"/> — In Bldg. <input type="checkbox"/> — Same Block

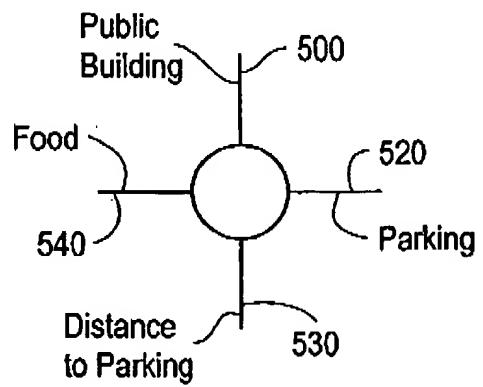


FIG. 5

## Title: VIRTUAL STREET ADDRESSING RADIUS

Attorney: Grasteit  
Case No.: 09/439,550  
Attorney: Brent A. Folsom  
Filing Date: November 12, 1999

Docket No.: ETA.~7735US0  
Telephone No.: 415-362-3800

New Style Geocoding  
Using 1 Layer of Data  
1 Line Source

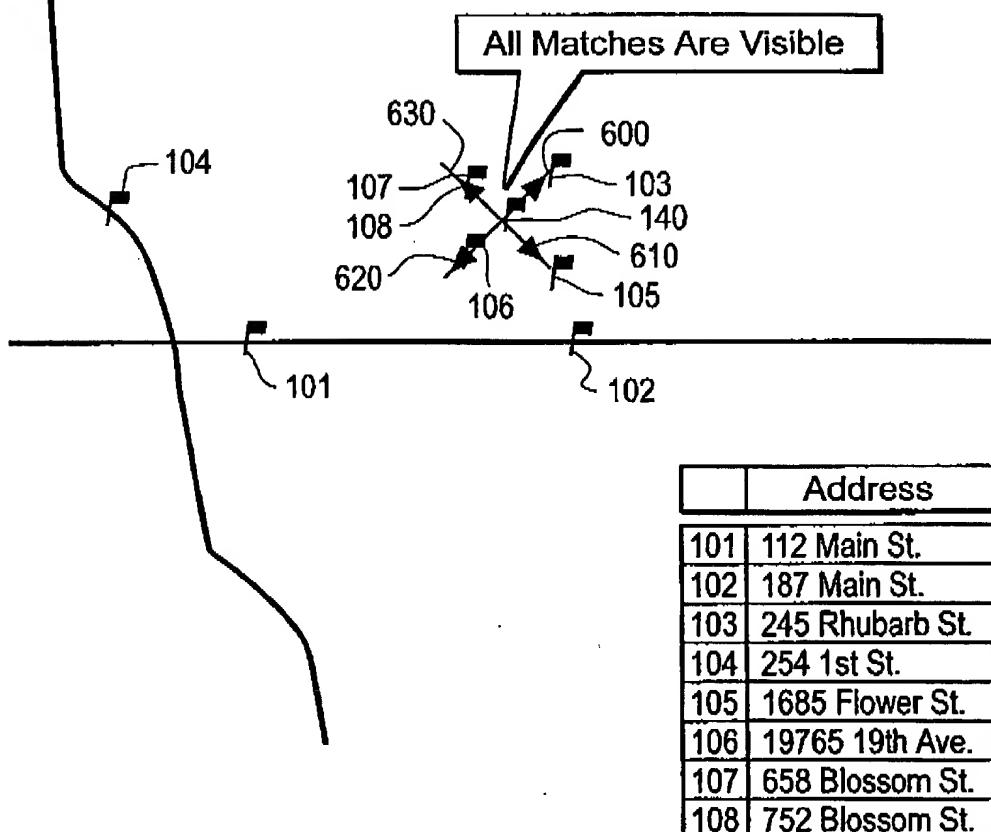


FIG. 6

Drawing Sheet 9 of 12

Title: VIRTUAL STREET ADDRESSING RADIUS

Inventor: Grasleit

Appl No.: 09/439,550

Attorney: Brent A. Folsom

Docket No.: E1AK-07735US0

Telephone No.: 415-362-3800

Filing Date: November 12, 1999

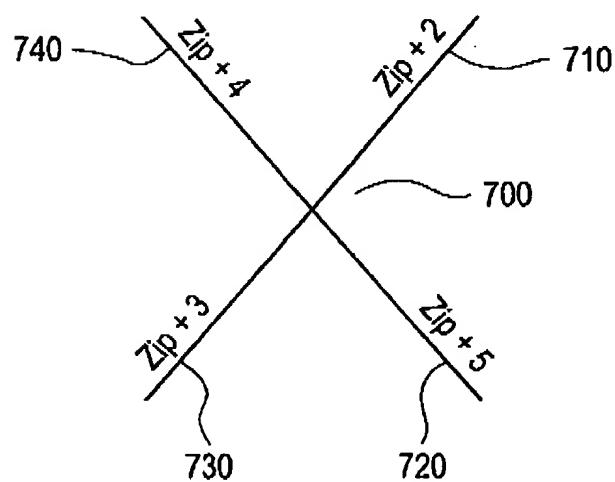


FIG. 7

Title: VIRTUAL STREET ADDRESSING RADIUS

Inventor: Grastek

Appl No.: 09/439,550

Attorney: Brent A. Folsom

Docket No.: B-AK-07735US0

Telephone No.: 415-362-3800

Filing Date: November 12, 1999

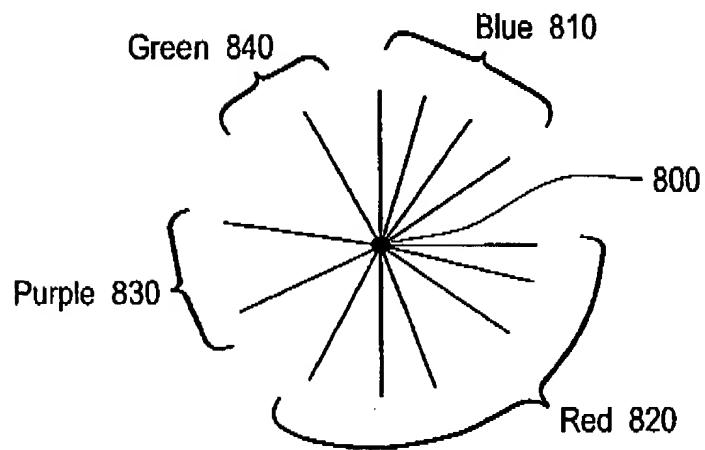


FIG. 8

## Drawing Sheet 11 of 12

## : VIRTUAL STREET ADDRESSING RADIUS

Attor: Grafeit  
App No.: 09/439,550  
Attorney: Brent A. Folsom  
Filing Date: November 12, 1999

Docket No.: ETAK-07735US0  
Telephone No.: 415-362-3800

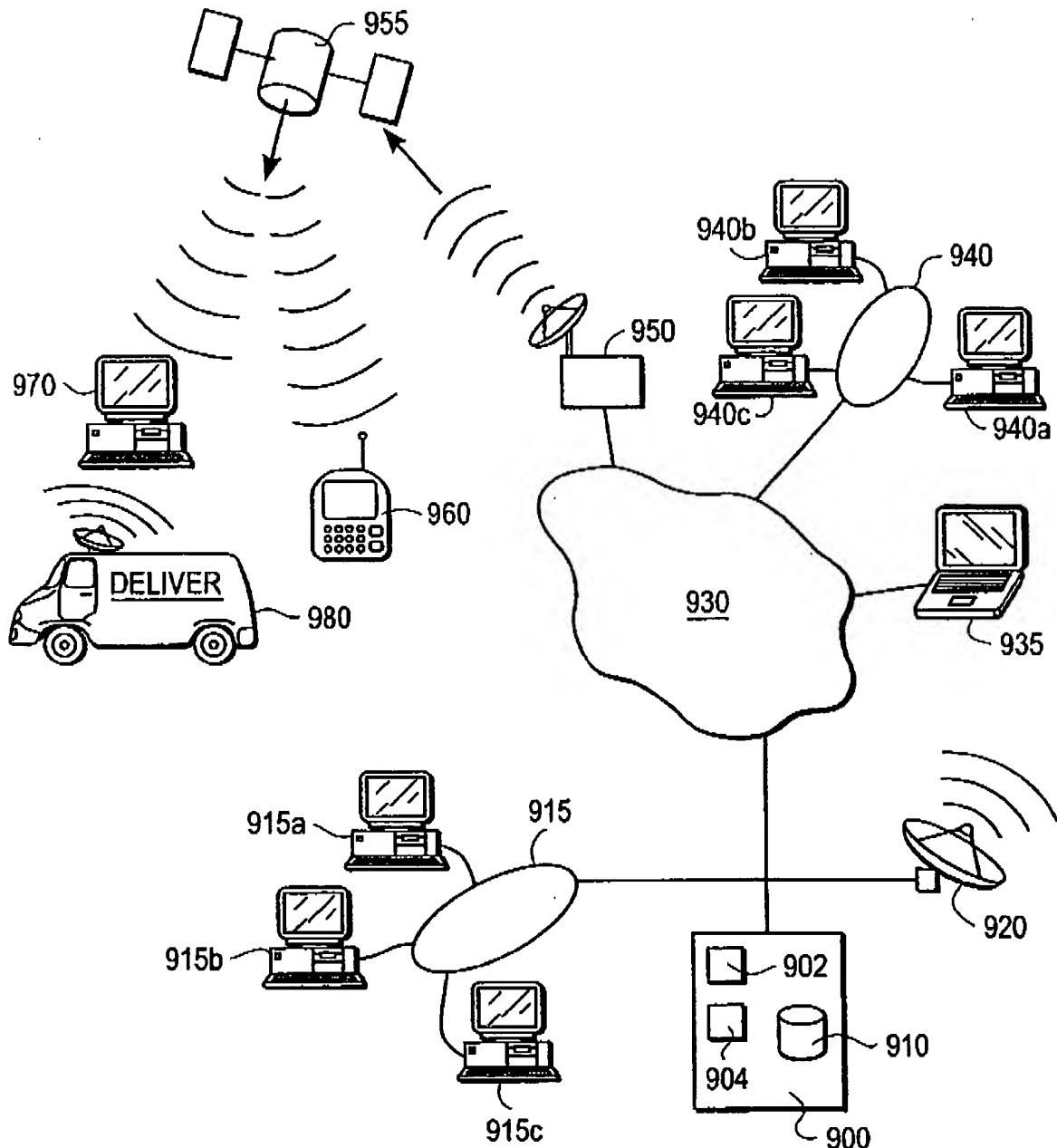


FIG. 9

## Drawing Sheet 12 of 12

## 're: VIRTUAL STREET ADDRESSING RADIUS

Editor: Grastek  
Appl No.: 09/439,550  
Attorney: Brent A. Folsom  
Filing Date: November 12, 1999

Docket No.: ET-07735US0  
Telephone No.: 415-362-3800

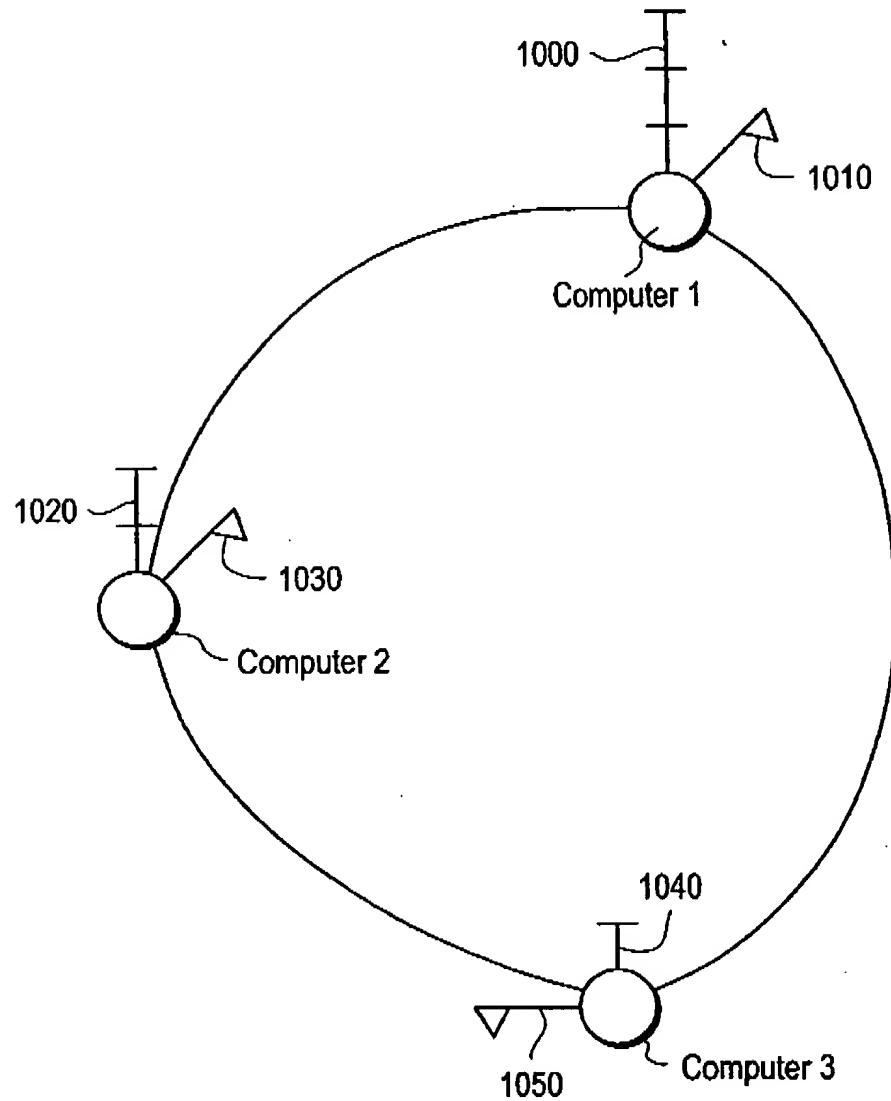


FIG. 10